

WHAT IS CLAIMED IS:

1. A barrier film comprising a base material film and a barrier layer deposited on at least one side surface of the base material film, wherein the barrier layer comprises a water repellent layer and a dense layer, the water repellent layer is a silicon oxide carbide film having the atomic percent of Si:O:C in a range of 100:40 to 120:80 to 160, and the thickness in a range of 2 to 300 nm, and the dense layer is a silicon oxide carbide film having the atomic percent of Si:O:C in a range of 100:100 to 200:5 to 100, and the thickness in a range of 5 to 300 nm.

2. The barrier film according to claim 1, wherein the barrier layer has a laminated structure comprising the water repellent layer, the dense layer formed on the water repellent layer, and the water repellent layer formed on the dense layer.

3. The barrier film according to claim 1, wherein the barrier layer has a laminated structure comprising the dense layer, the water repellent layer formed on the dense layer, and the dense layer formed on the water repellent layer.

4. The barrier film according to claim 1, wherein the barrier layer has a laminated structure comprising the water repellent layer, and the dense layer formed on the water repellent layer.

5. The barrier film according to claim 1, wherein the barrier layer is a silicon oxide carbide film comprising the water repellent layer, the dense layer formed on the water repellent layer, and the water repellent layer formed on the

dense layer, with the atomic percent of O(oxygen) with respect to Si(silicon) reduced continuously from the central part in the thickness direction toward the both outer sides and the atomic percent of C(carbon) with respect to Si(silicon) increased from the central part toward the both outer sides in the thickness direction.

6. The barrier film according to claim 1, wherein the barrier layer is a silicon oxide carbide film comprising the dense layer, the water repellent layer formed on the dense layer, and the dense layer formed on the water repellent layer, with the atomic percent of O(oxygen) with respect to Si(silicon) increased continuously from the central part toward the both outer sides in the thickness direction and the atomic percent of C(carbon) with respect to Si(silicon) reduced from the central part toward the both outer sides.

7. The barrier film according to claim 1, wherein the barrier layer is a silicon oxide carbide film comprising the water repellent layer, and the dense layer formed on the water repellent layer, with the atomic percent of O(oxygen) with respect to Si(silicon) increased continuously from the base material film side toward the outer side and the atomic percent of C(carbon) with respect to Si(silicon) reduced from the base material film side toward the outer side.

8. The barrier film according to claim 1, wherein the barrier layer is a silicon oxide carbide film comprising the dense layer, and the water repellent layer formed on the dense layer, with the atomic percent of O(oxygen) with respect to

Si(silicon) reduced continuously from the base material film side toward the outer side, and the atomic percent of C(carbon) with respect to Si(silicon) increased from the base material film side toward the outer side.

9. The barrier film according to claim 1, wherein the barrier layer is laminated by two or more layers.

10. The barrier film according to claim 1, wherein a plasma treatment process is applied to the uppermost surface of the barrier layer.

11. The barrier film according to claim 1, wherein the barrier layer is deposited on the base material film via a resin layer.

12. The barrier film according to claim 1, wherein a resin layer is deposited on the barrier layer.

13. The barrier film according to claim 1, wherein the oxygen transmission rate (OTR) is $3 \text{ cc/m}^2/\text{day}\cdot\text{atm}$ or less, and the water vapor transmission rate (WVTR) is $3 \text{ g/m}^2/\text{day}$ or less.

14. A laminated material comprising a heat sealable resin layer deposited on at least one side surface of the barrier film according to claim 1.

15. A packaging container using the laminated material according to claim 14, produced by thermally fusing the heat sealable resin layer into a bag or a box.

16. An image display medium using the barrier film according to claim 1.